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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/779,865  | 02/18/2004  | John A. Lawton       | 102456-40308370     | 6209             |
| 43569   | 7590        | 11/17/2005           | EXAMINER            |                  |
| MAYER, BROWN, ROWE & MAW LLP<br>1909 K STREET, N.W.<br>WASHINGTON, DC 20006 |             |                      | HAMILTON, CYNTHIA   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1752                |                  |
| DATE MAILED: 11/17/2005   |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                               |  |
|------------------------------|-------------------------------|-------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/779,865 | Applicant(s)<br>LAWTON ET AL. |  |
|                              | Examiner<br>Cynthia Hamilton  | Art Unit<br>1752              |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/18/04, 12/13/04, 8/22/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/13/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Objections

1. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In lines 3-4 of claim 3, "trimethylolpropane triacrylate" is not an aromatic acrylic material or a cycloaliphatic material or a combination of the two as limited in claim 1 upon which claim 3 depends with respect to "the acrylic material" of (b) in lines 4-7 in claim 1.

2. Claim 2 is objected to because of the following informalities: In line 9, "-epoxy-6-methylcyclohexanecarboxylate" should be -- epoxy-6-methylcyclohexanecarboxylate ---. Appropriate correction is required.

### Information Disclosure Statement

3. The information disclosure statement filed on December 13, 2004 does not fully comply with the requirements of 37 CFR 1.98(b) because: Applicants have failed to present copies of the non US patent documents cited or, in the alternative, identify the APPLICATION, i.e. not the Patent Number, of an earlier effective filing date under 35 U.S.C. 120. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above

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mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

4. The information disclosure statement filed December 13, 2004 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. **The Serial Number the last page is 10/748,850.** The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered with the exception of US patents cited on page 1 of three of the Disclosure statement since no copy is required nor citation of related continuing application for such consideration.

**Notes by the Examiner**

A Newton (N) is not the same as a kiloneuton (kN). See yield stress of 28 to 40 N/mm<sup>2</sup>. See Kilonewton and newton.

### Issues of Continuity

5. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C.120 as follows:

- a. Applicants failed to amend the specification to contain specific reference to this application being a "continuation of Serial No. 09/948,713 filed 10 September 2001, now Patent No. 6,762,002."
- b. Because Applicants failed to amend the specification with respect to continuation of Serial No. 09/948,713, then continuity to Serial No. 09/113,271 with a patent date of 11 September 2001 and continuity to Serial No. 09/538,940 with a patent date of 30 April 2002 has not been complied with because without intervening continuation of Serial No. 09/948,713 filed 10 September 2001 with a patent date of 13 July 2004 because no application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing the specific reference to the earlier filed application is submitted at such time during the pendency of the application as required by the Director.

This application is claiming the benefit of prior-filed nonprovisional application No. 09/948,713 and 09/538,940 under 35 U.S.C. 120, 121, or 365(c). Copendency between the current application and the prior application is required. Since the applications are not copending, the benefit claim to the prior-filed nonprovisional application is improper. Applicant is required to delete the reference to the prior-filed application from the first sentence(s) of the specification, or the application data sheet, depending on where the reference was originally submitted, unless applicant can establish copendency between the applications.

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**The rest of the Office action.**

**The effective filing date for all claims in this application as of the date of this Office Action is February 18, 2004. Rejections that follow are based upon this established date.**

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Lawton et al (US 2002/0106584). This application is a copy of the application for Lawton et al.

Continuity has not been granted to Lawton et al therefore all of Lawton et al was published a year before the filing date of this application making Lawton et al at this time a reference under 375 USC 102 (b).

8. Claims 1-7, 9 and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawton (WO 00/03300) with a publication date of January 20, 2000 as evidenced by RN 4687-94-9. Lawton is the PCT publication related to US application Serial No. 09/113,271. The instant claims are not fully supported by the original application Serial No. 09/113,271 under 35 USC 112, first paragraph. Just as one piece of evidence for this allegation, the examiner notes that none of the physical properties of (i), (ii), (iii) and (iv) in the instant claims are found in the disclosure or claims of US application Serial No. 09/113,271. The instant claims are not fully supported by the original application Serial No. 09/538,940 under 35 USC 112, first paragraph. The examiner notes that yield stress of 28 to 40 N/mm<sup>2</sup> is not disclosed in application Serial No.

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09/538,940. What is disclosed in application Serial No. 09/538,940 for yield stress is 28 to 40 kN/mm<sup>2</sup>. There is a factor of 1000 difference in kiloneuton, i.e. kN, and Neuton, i.e. N.

Therefore, the instant claims with respect to the limit of (iv) are not supported by the original disclosure of Serial No. 09/538,940. The effective filing date for all of the instant claims is September 10, 2001 that is the actual filing date of US application No. 09/948,713. With respect to instant claims 1-7, 9 and 12-16, Examples 1-6 of Lawton anticipate the instant compositions and articles wherein the three dimensional articles are the tested materials of Table 1 in Lawton. In describing the properties of Table 1, Lawton discloses the "TYE% = tensile yield elongation; for all samples the yield elongation was less than or equal to the break elongation". Thus all of the examples of Lawton in Table 1 exhibit an average elongation at break of at least 10% because all do not break before the tensile yield elongation set forth in Table 1. The composition of these examples of Lawton are set forth on pages 34-35 and the abbreviations being set forth on the bottom of page 32 and top of page 33, with "epoxy" being identified as "3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexanecarboxylate", polyTHF as polytetrahydrofuran linear chain (1000 mw), FRI-1 being 1-hydroxycyclohexyl phenyl ketone, FRI-2 being 2-hydroxy-1 {4-(2hydroxyethoxy)phenyl} -2-methyl-1-propanone, FRI-3 being 2,2-dimethoxy-2-phenylacetophenone, Ebecryl being the acrylate ester of bisphenol-A epoxy that is further identified as Ebecryl 3700 which is evidenced by RN 4687-94-9 to be bisphenol A diglycidyl ether diacrylate, and CatI being a mixed triarylsulfonium hexafluoroantimonate salts in 50% by weight propylene carbonate, i.e. the cationic initiator. All of the FRI-1, FRI-2 and FRI-3 are free radical initiators. Thus, these examples of Lawton disclose species readable on the instant

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invention wherein the choice of property is instant (iii) an average elongation at break of at least 10%.

9. Claims 1, 7-10, 13-14, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lapin et al (WO 97/42549) as evidenced by Mirle et al (5,418,112) or Fujinami (5,500,040).

The resin mixtures of Example VII of Lapin et al anticipate the instant composition and instant article as do the process in which is to be used as clearly taught by Lapin. With respect to Lapin, the epoxide I.E. Epon 100 1F, UVR 6105 and UVR 6128, is 37.9% by weight Photomer 3016 which is evidenced by Mirle et al in col. 8, lines 24-26, and Fujinami in col. 8, lines 65-68, as bisphenol S epoxy diacrylates an aromatic acrylic material as required of instant (b) in applicant's claims, is present in 11.4 %. Tone M 100 which is an hydroxy containing material as identified by Lapin et al on page 11, lines 14-26, is present in Example VII at 14.2 %. All of the components are present wherein the acrylic material is an aromatic acrylic materials. The intended use properties of any one of the four set forth in instant claims 1, 7-10, 13-14, and 17-19 are held not properties solely dependent upon the composition as set forth by applicants in part on page 5 when reference is made to the need to choose various amounts exposure to actinic radiation to obtain the proper final product. Even in view of this, the cured product of Example VIII of Lapin et al as seen on Table 4 has a 7% elongation and thus does appear to inherently possess the properties which would allow it to be properly cured to form the instant intended material. The cured product is three-dimensional. As to the process of Lapin et al, that disclosed to be used is found in claims 12-13, page 4, lines 14-21, page 5, lines 1-13, page 15, lines 20-28, page 16, lines 3-29. The material of Lapin et al was cured at 2 J/cm<sup>2</sup> (page 18, line 4). Thus,



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with respect to instant claims 1, 7-10, 13-14, and 17-19, the compositions, cured articles and processes of Lapin et al anticipate those of the instant invention.

10. Claim 19 is objected to because of the following informalities: "mJ/cm" should be "mJ/cm<sup>2</sup>". Appropriated correction is required.

11. Claims 1-4, 12-13, 15-18 and 20 are rejected under 35 U.S.C. 102(b) as being Sitzmann et al (WO 98/36323). Examples 10-12 of Sitzmann et al anticipate the compositions and cured products of instant claims 1-4, 13-16 wherein percent elongation is disclosed from 4.9 to 6.78 and Table 2 of Sitzmann et al disclose the components used inclusive of ethoxylated bisphenol A diacrylate, i.e. a species of instant (b), hydroxy terminated polytetrahydrofuran, i.e. a species of instant (c), 3,4-epoxycyclohexylmethacrylate, i.e. instant a, alpha-dimethoxy-alpha-phenylacetophenone, i.e. instant (e), and triarylsulfonium hexafluoroantimonate, i.e. instant (d). With respect to instant claims 17-18 and 20, the compositions of Examples 10-12 of Sitzman are disclosed to be useful in the processes that anticipate the instant processes.

12. Claims 1-3, 5-6, 8-11, and 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinmann et al (5,476,748). With respect to instant claims 1-3, 5-6, 8-11 and 13-20, Example 1 of Steinmann et al anticipates the instant composition, molded article and process wherein the final physical properties are inherently obtainable with the composition and are present in the article.

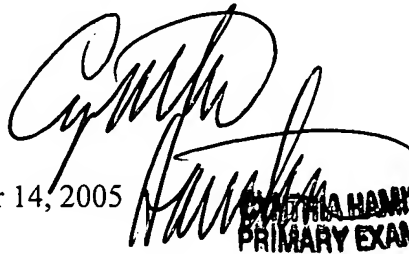
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 14, 2005



**CYNTHIA HAMILTON  
PRIMARY EXAMINER**

Cynthia Hamilton  
Primary Examiner  
Art Unit 1752